

Examining the Financial Inclusion Index to Determine the Financial Inclusion Status in India

Ramzi Abdullah Ahmed Hassan

Abstract: Globally, the issue of financial inclusion is crucial, especially in poorer nations where access to financial services is frequently constrained. To increase financial inclusion in India, the government has put some laws and programmes in place, but it is crucial to evaluate their success and pinpoint areas for development. This study focuses on the financial inclusion initiatives and policies that have been put into place in India. The research evaluates the homogeneity/contrast of government actions and the interaction of the banking sector with society. A descriptive analysis method and secondary data from RBI reports and Fi indicators of World Bank were used. The results of this study imply that the government's programme has made some progress towards boosting access to financial services, particularly in rural areas. This study outlines areas for emphasising increased financial inclusion in India. Future actions could include improving underprivileged demographics' access to financial services.

Keywords: Financial Inclusion, India, Financial Inclusion Index, Economic Reform, Accessibility, Financial Services

I. INTRODUCTION

Before India's economic reforms, the proportion of rural bank offices to all banks was high, reaching 56.92%. However, this proportion steadily decreased after the economic reforms, reaching less than 50% in 1998. For various factors, including poor attendance as the primary cause of bank transformation and resettlement, more than 10% of rural bank branches were either closed or transferred

Manuscript received on 01 April 2023 | Revised Manuscript received on 24 April 2023 | Manuscript Accepted on 15 May 2023 | Manuscript published on 30 May 2023.

*Correspondence Author(s)

First Author Name*, his/her department, Name of the affiliated College or University/Industry, City, Country. Email: xyz@latticescipub.com, ORCID ID: <https://orcid.org/xyz>.

Second Author Name, his/her department, Name of the affiliated College or University/Industry, City, Country. Email: xyz@latticescipub.com, ORCID ID: <https://orcid.org/xyz>.

Third Author Name, his/her department, Name of the affiliated College or University/Industry, City, Country. Email: xyz@latticescipub.com, ORCID ID: <https://orcid.org/xyz>.

© The Authors. Published by Lattice Science Publication (LSP). This is an open access article under the CC-BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>)

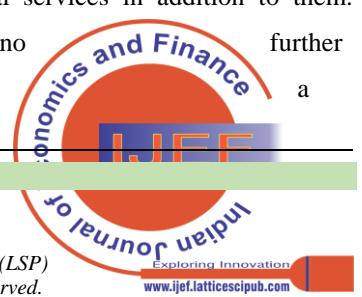
Retrieval Number: XXXX/2023©LSP

DOI: [10.54105/ijef](https://doi.org/10.54105/ijef)

Journal Website: www.ijef.latticescipub.com

to more lucrative locations. Therefore, the propensity to leave rural areas had a detrimental effect on the weak sector's ability to acquire financing in the weak areas. (Sharma, 2015) Finance access initiatives should, at the very least, give access to a range of financial services, including savings. Long-term and short-term credit, insurance, pensions, mortgages, money transfers, and other services at affordable prices. Of India's 19.9 million households, just 6.82 million have access to financial services. Of India's 13.83 crore rural households, just 4.16 crore have access to basic financial services. Urban families only have access to banking services in 49.52% of cases. Over 41% of adults in India don't have a bank account. (Sharma, 2015) The Committee of Financial Inclusion, led by Dr. C. Rangarajan (2008), noted that financial inclusion must be carried out in a mission mode.

Furthermore, suggested proposing a National Mission (NMFI) made up of representation from all stakeholders. That Committee aims to suggest necessary general policy changes and assist stakeholders, private, and non-profit sectors in promotional initiatives. (Sharma, 2015) Although the term "financial inclusion" is now popular, it has long been used in India. To entice commercial banks to establish branches in rural regions, the Reserve Bank of India has made an effort. Priority sector financing was created to offer agriculture and small- and medium-sized companies loans. Additionally, institutions tailored specifically for rural regions, such as Rural Cooperative institutions, were founded. Regional Rural Banks To finance small and medium-sized enterprises and rural regions, the government also established national agencies like NABARD and SIDBI. No-Frill Accounts: The RBI asked banks to offer no-frills savings accounts in November 2005, allowing excluded people to create savings accounts. People usually need to maintain a minimum level in their savings accounts, and most banks now provide several services in addition to them. No-frills accounts offer no further amenities and don't require a



Published By:

Lattice Science Publication (LSP)

© Copyright: All rights reserved.

balance, lowering expenses for the bank and the customer. The number of no-frills accounts climbed from around 0.4 million to 6 million between March 2006 and March 2007, with public sector banks accounting for most of the growth. The number of no-frills accounts in private sector banks climbed from 0.2 million to 1 million within the same period. Foreign banks did not significantly rise. (Sharma, 2015) The introduction of General Purpose Credit Cards (GCC) with a limit of up to Rs. 25,000 has been requested of banks for their rural and semi-urban branches. GCC is an ongoing credit that enables withdrawals up to the sanctioned limit by the account holder. A review of household financial flows can be used to determine the purpose restriction, and the boundaries are imposed regardless of security or purpose. The facility's interest rate is totally deregulated. Creating a straightforward system for the one-time settlement of past-due debts up to Rs. 25,000 has been suggested. Banks have been particularly informed that debtors whose debts have been resolved through the one-time settlement plan could re-enter the official financial system and receive new credit. The Indian government established a Committee to Enhance Financial Inclusion in India on June 22nd, 2006. The Committee released its findings in January 2008. The study provides an in-depth analysis of financial inclusion, which supports the following statistics: 51.4 percent of agricultural households lack access to official and informal financial resources. Farmer families only have access to 27% official credit, and a third of this group borrows from non-formal sources. Overall, 73% of agricultural households lack formal financial access. (Sharma, 2015) However, adequate measures must be developed by the government, financial regulators, and policymakers to realise the aim of financial inclusion. Financial inclusion will increase the nation's GDP once the objective is achieved, as shown by stronger national income growth, credit with diversified risk, cheaper exchange costs, and wage spillovers. 27% of the population living in poverty in a country like India, where there are 1.25 billion people, 23 different languages are spoken, and 71% of people live in rural regions. This is undoubtedly a challenging task that calls for more consistent, committed efforts. (Dhillon, 2019) In 90% of economies, the primary financial regulator is in charge of at least some components of the financial inclusion

agenda, according to Financial Access, 2010 CGAP. It was shown, however, that encouraging access to credit and deposit services is more likely to focus on financial regulators in low- and middle-income nations. (Jain, 2021) Most people are still unbanked despite the nation's recent successful economic growth rates exceeding those of most affluent countries. Financial Inclusion in India tries to change the dynamics by making financial services available to the poor at a fair cost; yet, because it is a relatively new socio-economic idea, people with low incomes might not be aware of it and may be unable to pay it. Global trends support expanding financial services to all societal sectors as essential to inclusive development and progress. All parties involved—banks/intermediaries, NBFCs, and the excluded urban population—can benefit from financial inclusion. Intermediaries known as Business Correspondents (BCs) will represent these banking and financial institutions in their dealings with end-users as their executors and faces. At the same time, Banks will manage their basic infrastructure and services. Portable terminals such as Tablets (GSM-enabled) coupled with a portable biometric scanner, smart card swipe devices and thermal Bluetooth printers would be available to conduct online banking operations while out in the field. Once an institution has been approved as a UIDAI user, the USDA will provide certification and a customer intelligence report via NPCI or NSDL. It is critical to assist breadwinners in managing their finances and accelerating incoming and outgoing payments as income increases and, as a result, savings in rural areas improve. An inclusive approach to financial and banking will only be reinforced in rural areas if people can open simple, no-frills current and savings accounts, easing KYC norms and directly crediting social benefits to account holders.. (Jain, 2021) Today's growing economy requires financial inclusion, which involves giving unbanked people access to banking services. Financial inclusion has advanced and increased due to the many actions that these economies are doing to guarantee that their citizens have access to banking services. Based on statistics from 2011, 2014, and 2018, there has been a rise in the number of financial institution accounts globally, which has led to a rise in financial inclusion among nations. Financial

inclusion is more advantageous for Lower Middle-Income Countries, especially India, than other Lower Middle-Income Countries. This indicates that India does far better than Pakistan, Bangladesh, and Brazil. (Jain, 2021) The formal financial system has to pay attention to two demands: the need for increased financial literacy and awareness to financial inclusion and the worry of financial counsellors among farmers. Indian banks and financial market participants should seriously consider supporting such programmes as part of their corporate social responsibility. Banks should provide a full-day seminar for small borrowers, especially those in their clientele, including farmers. To be allocated to this region, much work and engagement is required. (Jain, 2021)

II. Case description

India's government and banking regulators have recently prioritised financial inclusion. To increase financial inclusion, the government established a committee in 2006, and it published a report in 2008 outlining the stark discrepancies in access to financial services across the nation, notably in rural regions and among households with farmers. The government and financial regulators have put in place several policies and efforts to solve these problems, including introducing particular products like RuPay and the Financial Access Survey and a relaxation of Know Your Customer (KYC) regulations. These initiatives sought to improve underserved communities' access to financial services and raise the nation's GDP through greater national income growth, diversified risk credit, cheaper exchange costs, and wage spillovers. The effectiveness of these therapies has not yet been thoroughly assessed. This study uses secondary data from RBI reports and Fi indicators from the World Bank website to evaluate the homogeneity/contrast of governmental actions and the interaction of the banking system with society. It also applies ANOVA and T-test to assess the impact of these policies and initiatives on financial inclusion in India. If available, the cost information related to these treatments will also be examined to determine their viability and efficacy.

III. OBJECTIVES

- 1) Gaining an understanding of the reality of financial inclusion indicators
- 2) Determine the various types of financial inclusion indicators both globally and locally.
- 3) To assess the performance of Indian banking policies and their impact on the financial inclusion index.
- 4) Make recommendations to improve financial inclusion by noting the periods and reforms associated with that period.

IV. HYPOTHESIS

Hypothesis 1: The values of access, usage, quality, and F-Index have dramatically grown over time, showing a positive trend in the effectiveness and impact of the research.

Hypothesis 2: There are substantial variances in the quality, usage, and F-Index values throughout the years, indicating changes in the usability, accessibility, and effect of research over time.

Hypothesis 3: Improvements in research availability and utilisation, which positively influence the impact and quality of the research, are principally responsible for the observed increase in the F-Index values.

V. RESEARCH METHODOLOGY

The descriptive analysis approach was applied to this study. It is based on secondary information from the World Bank and Reserve Bank of India websites, including Fi indicators and RBI releases. To illustrate the contrast/homogeneity of governmental actions and the interaction of the financial system with society, the ANOVA and T-test will be used.

VI. DEVELOPMENT OF FINANCIAL INCLUSION IN INDIA

The volume and complexity of the Indian banking sector have increased considerably during the last several decades. There are worries that banks have been unable to include a sizable portion of the population, especially the disadvantaged, in the fold of basic banking services despite tremendous gains in all areas of financial sustainability, profitability, and competitiveness. The Indian government looked into the reasons for financial exclusion and developed plans to guarantee the poor and vulnerable were included in the



financial system. According to data from the Reserve Bank of India, as many as 139 districts in India have severe financial exclusion, with adult populations per branch reaching 20,000 and barely 3% acquiring bank loans. (R.ANNU, 2013) Based on the premise that each adult has just one bank account, which does not hold in practise, real coverage is likely to be lower, 59 percent of the adult population in India overall has bank accounts. As a result, 41% of the populace lacks access to banking services.

39% of rural regions have financial inclusion coverage, compared to 60% of metropolitan areas. Poorer parts of the nation have greater rates of the unbanked population, with the greatest concentrations in the North-Eastern and Eastern regions. Financial inclusion may improve the financial condition and living standards of the poor and disadvantaged, but the causes may vary from nation to country, as does the method .Following the Rangarajan Committee's recommendations in 2008, the term "financial inclusion" as a project for policymaking was first used in the banking industry. When banks saw how important it was to reach out to more people to expand their operations, stakeholders' interest started to develop. When financial services were first introduced, disadvantaged groups including the socially excluded and low-income households received basic savings accounts and affordable access to quality credit. However, in the past, financial services were mostly restricted to metropolitan centres and large cities. It has been an essential part of banks' operations since the RBI notified all public and private banks that they must provide a board-approved three-year Financial Inclusion strategy starting in April 2010. illustrating the coverage of unbanked communities with more than 2000 residents and those with fewer than 2000. Certain goods were introduced meant to serve the economically excluded sectors, including credit allowance. In March 2012, NPCI instructed Kisan Credit Cards (KCC), General Credit Cards (GCC), and other key industries to include Financial Inclusion strategies and Benchmarks in their business strategies. Launching the native Indian debit card RuPay was one of the linked events. Establishing better digital transformation and enabling quicker adoption of debit card culture has been a game changer. (Jain, 2021)

To guarantee financial inclusion for the underprivileged and vulnerable, the Indian government looked into the reasons for financial exclusion and developed methods. Data from the Reserve Bank of India show that up to 139 districts in India have severe financial exclusion, with more than 20,000 adults living

in each branch and just 3% acquiring bank loans. Assuming each adult has only one bank account (which does not hold in practice; thus, actual coverage is likely lower), 59 percent of adults in India have bank accounts. As a result, 41% of the populace lacks access to banking services. 39% of rural regions have financial inclusion coverage, compared to 60% of metropolitan areas. As a result, 41% of the populace lacks access to banking services. financial participation. Rural areas only cover 39% of financial inclusion, compared to 60% in metropolitan areas. As a result, 41% of the populace lacks access to banking services. 39% of rural regions have financial inclusion coverage, compared to 60% of metropolitan areas. Poorer parts of the nation have greater rates of the unbanked population, with the most significant concentrations in the North-Eastern and Eastern regions. All attempts are being made because financial inclusion may improve the financial status and living level of the poor and disadvantaged, even though the motivations and techniques may vary from nation to country. (R.ANNU, 2013)

The Pradhan Mantri The Jan Dhan Yojana (PMJDY), a National Mission on Financial Inclusion that encompasses an integrated strategy to adopt full financial inclusion of all families in the country, was launched across the nation in August 2014. Every family was required to have access to at least one basic banking account under the scheme, along with facilities for credit, insurance, and pensions. (JOSE, 2019)

VII. FINANCIAL INCLUSION INDICATORS

- The typical financial inclusion indicators include the number of bank accounts per adult, geographic and demographic branch penetration, geographic and demographic ATM penetration, demographic deposit penetration, demographic credit penetration, deposit income ratio, credit income ratio, and cash deposit ratio... (R.ANNU, 2013)
- The International Monetary Fund, or "IMF" Policymakers, can utilise the Financial Access Survey, a supply-side dataset on access to financial services introduced in 2009, to help them gauge, monitor, and compare progress against peers. The FAS is developed using administrative data from central banks and other financial authorities. The

collection covers over 15 years and contains 121 time series on financial access and use from 189 countries. to make international comparisons easier. The FAS releases 70 indicators adjusted for GDP, land area, and adult population size. (GDP) The information is classified according to the financial service provider leg (commercial banks, credit unions, and microfinance institutions) and the financial service type. In 2014, the FAS began collecting mobile money data; in 2017, it began collecting gender-disaggregated data. The IMF's data are currently being used to help the FAS for Decisions (D40) Fund, established in June 2018. (IMF, 2022)

- AFI with the overarching goal of enhancing financial inclusion at the local, national, and international levels. Governed and owned by its member central banks and financial regulatory bodies, the association for Financial Inclusion (AFI) is a policy leadership group. Through its cooperative methodology, which blends peer learning, information exchange, and peer transformation, AFI works with regulators, international organisations, and business sector leaders to develop feasible solutions and support the implementation of key policy reforms. The idea behind AFI was that expanding and improving financial inclusion programmes required an international network for knowledge exchange. (AFI, 2022)
- The AFI network has invested heavily in this platform over the years, with the help of donors and partners, and it is producing tangible results. (AFI, 2022)
- Participating nations are anticipated to pledge to track and share their indicators so that they may be compared to other economies. The AFI -Core Set of Financial Inclusion Indicators- was developed to provide policymakers and regulators throughout the AFI network with a common place to start when gathering information on the critical aspects of financial inclusion and creating national regulations. The goal of this policy model is to persuade organisations just starting to gather data on financial inclusion to use the AFI Core Set and the vast array of information products and resources offered by AFI to gauge and monitor the financial inclusion policies they have put in place. (AFI, 2022)

- Findex Core Indicators globally: Financial inclusion is necessary for development. The Global Findex Database has been disseminating data on the accessibility of financial services globally since 2011. The 2021 version includes changes to the indicators for official and informal financial services, electronic payments, and economic resilience practices. Based on surveys of 125k adults conducted during COVID-19 in 123 economies, discrepancies in women's and low-income people's access to and use of financial services are shown. The database, released every three years, includes 300+ variables related to ownership, payments, savings, credit, and resilience. Data, including gender, income, labour force participation, age, and rural vs urban domicile, are given by nation, region, and income level. There are indicators for 2021, 2017, 2014, and 2011. (World-Bank, 2022)
- Global Partnership for Financial Inclusion (GPFI): The GPFI is a platform for G20 countries, non-G20 countries, and stakeholders to enhance financial inclusion initiatives. It puts into practice the Seoul-adopted G20 Financial Inclusion Action Plan. The GPFI, which was introduced on December 10 in Seoul, promotes peer learning, information sharing, lobbying for policy changes, and cooperation between G20 and non-G20 countries. Enhancing coordination and collaboration among various stakeholders at the national, regional, and global levels is the goal of Action Item 6 of the G20 Financial Inclusion Action Plan.
- The implementation was driven by the Alliance for Financial Inclusion (AFI), the Consultative Group to Assist the Poor (CGAP), and the International Finance Corporation (IFC). 2012 saw the addition of the World Bank Group and the SME Finance Forum as Implementing Partners. In 2013, the OECD (Organisation for Economic Co-operation and Development) joined as an Implementing Partner. In 2014, the International Fund for Agricultural Development



(IFAD) and the Better Than Cash Alliance joined as Implementing Partners. The GPFI assists nations with implementing the G20 Principles for Innovative Financial Inclusion, including enhancing statistics for gauging financial inclusion and creating methods for establishing goals. Her Majesty Queen Maxima of the Netherlands, an honorary patron, promotes financial inclusion internationally by emphasising the harmony of policy measures and involving pertinent parties. Queen Máxima previously chaired the G20 SME Finance Data Working Group before the GPFI's launch at the G20 Summit in Seoul. (UNSGSA)(GPFI, 2022)

- Sarma (2008) created a financial inclusion index for 54 nations as part of his research. The index (IFI) measures a nation's financial sector's inclusivity, considering factors including banking penetration, service accessibility, and system utilisation. IFI combines these dimensions into a scale from 0 to 1, where 0 denotes total exclusion and 1 denotes total inclusion. India had a pitiful IFI of 0.170, placing it at 50th on the ranking. It scored (D2, AVAIL 0.080; D3, USAGE 0.271) for penetration, availability, and usage, respectively. The availability score for India was inferior. This study seeks to calculate the financial inclusion index for various states while considering all relevant aspects. Ratings for penetration, accessibility, and usage were (D2, AVAIL 0.080; D3, USAGE 0.271). India scored poorly in terms of availability compared to other factors.. (R.ANNU, 2013) (SARMA, 2008)

In October 2017, India's Government formed a Task Force (TF) to propose dimensions for the Financial Inclusion Index. The TF's report was due in August 2020, retaining the methodology but adding indicators. The "quality" dimension was included, defining weighting distribution and target values. (RBI, 2021) The Reserve Bank's FI index is weighted at 35%, 45%, and 20% for "access," "use", and "quality" dimensions, respectively, emphasising the in-depth aspects.

- The 'Access' sub-indicator has four dimensions: 'Banking,' 'Digital,' 'Pension,' and 'Insurance.' It reflects supply-side efforts, including infrastructure availability and access to excluded sectors. Twenty-six indicators capture banking outlets, BCs, NBFCs, post offices, savings accounts, etc. To assess banking

outlets, savings accounts, micro-savings, cards, e-payment infrastructure, JAM ecosystem, pension plans, and offices, 26 indicators were chosen across four dimensions. Services like pensions, life insurance, and non-life insurance are included.

- The "Usage" sub-indicator comprises five dimensions: credit, digital, insurance, savings and investments, and retirement. It includes 52 metrics reflecting active usage of financial infrastructure for remittances, investments, and insurance.
- The "quality" sub-index has three dimensions: "financial literacy," "consumer protection," and "inequality." It contains 19 metrics representing initiatives for public awareness, responsible financial services use, consumer rights protection, complaint handling, and measuring inequality using the Gini coefficient.

VIII. DATA ANALYSIS

Years	Access	Usage	Quality	F-Index
Mar-17	61.7	30.8	48.5	43.4
Mar-18	63.9	33.7	51.4	46
Mar-19	67.5	38.7	52.6	49.9
Mar-21	73.3	43	50.7	53.9

Table 1: Comparing Financial Inclusion Tools (resource RBI report)

With some quality variations, the data over time reveals a favourable trend in access, consumption, and research effect (F-Index).

The access figures show the proportion of access to research material, which steadily climbed from 61.7% in March 2017 to 73.3% in March 2021. This shows that access to the research materials has gotten better over time. With some quality variations, the data over time reveals a favourable trend in access, consumption, and research effect (F-Index).

The usage figures show the proportion of utilisation or consumption of the research material. They grew steadily from 30.8% in March 2017 to 43% in March 2021. This shows that the research materials have been used more often over time.

The quality values changed throughout time, indicating changes in the study material's overall rating. The greatest quality was recorded in March 2019 52.6%; however, in March

2021, it somewhat declined to 50.7%. To evaluate the research effect, the F-Index combines access, utilisation, and quality values. The F-Index values increased from 43.4% in March 2017 to 53.9% in March 2021, demonstrating a favourable trend. This suggests that the influence of research has increased over time.

		t-Test: Paired Two Sample for Means
<i>Variable 2</i>	<i>Variable 1</i>	
55.225	46.1	Mean
166.1292	163.5	Variance
4	4	Observations
	0.935807	Anova: Single Factor Pearson Correlation
	0	Hypothesised Mean Difference
	3	SUMMARY df
<i>Variance</i>	<i>Average</i>	<i>Sum</i>
	<i>Count</i>	-3.907 Groups
25.66667	66.6	266.4
	4	0.014882 Column 1 P(T<=t) one-tail
29.13667	36.55	146.2
	4	2.353563 Column 2 t Critical one-tail
2.966667	50.8	203.2
	4	0.029764 Column 3 P(T<=t) two-tail
21.07333	48.3	193.2
	4	3.182446 Column 4 t Critical two-tail

Table 3: t-Test: Paired Two Sample for Means. source (primary data)

ANOVA

<i>F crit</i>	<i>P-value</i>	<i>F</i>	<i>MS</i>	<i>df</i>	<i>SS</i>	<i>Source of Variation</i>
3.490295	6.17E-06	31.03044	611.6358	3	1834.908	Between Groups
			19.71083	12	236.53	Within Groups
				15	2071.438	Total

Table 2: Anova: Single Factor. source (primary data)

Table- II: Name of the Table that justify the values

	2015	2016	2017	2018	2019	2020	2021

Number of ATMs per 1,000 km ²	61.93	67.96	71.83	71.86	70.66	73.67	74.58
Number of active mobile money accounts per 1,000 adults	-	-	-	-	838.03	1,170.05	1,184.86
Number of commercial bank branches per 1,000 km ²	42.64	45.62	47.31	48.00	49.25	50.54	50.72
Number of commercial bank branches per 100,000 adults	13.52	14.21	14.49	14.46	14.60	14.75	14.58

Table 4: Financial Inclusion in India Indicators- IMF Data-. (Source: RBI)

According to the Table (2) The number of ATMs per 1,000 km² progressively grew from 2015 to 2021, reaching 74.58 in that year. Additionally, there were 1,184.86 active

mobile money accounts per 1,000 individuals in 2021, a considerable

increase from 2019. Parallel to this, there was a progressive rise in the number of commercial bank branches per 1,000 km², reaching 50.72 in 2021. However, throughout the same time period, the ratio of commercial bank branches per 100,000 individuals

remained mostly steady, reaching 14.58 in 2021. Collectively, these developments point to increased accessibility and a rise in the use of financial services delivered via mobile devices.

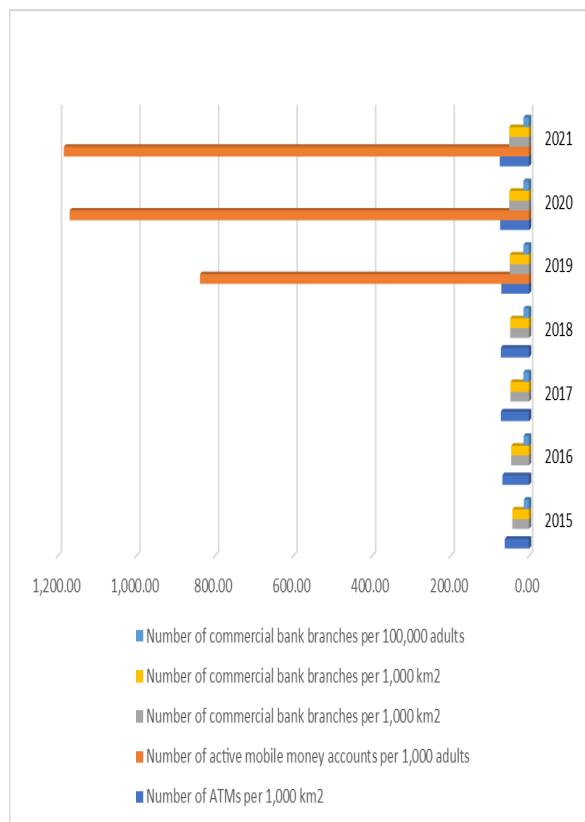


Figure 1: Comparing FI tools. Source: RBI

IX. RESULTS AND DISCUSSION

Based on the provided data, the result of testing hypotheses as:

Hypothesis 1: The access, usage, quality, and F-Index values have significantly increased over the years, indicating a positive trend in the research performance and impact.

The data supports this hypothesis. The access values increased from 61.7% in March 2017 to 73.3% in March 2021, showing improved research material accessibility. The usage values also increased from 30.8% to 43% over the same period, indicating a higher consumption or utilisation of research material. Additionally, the F-Index values increased from 43.4% to 53.9%, demonstrating an overall improvement in research impact. Thus, the data suggest a positive trend in research performance and impact.

Hypothesis 2: There are significant differences in the access, usage, quality, and F-Index values among the different years,

suggesting variations in research accessibility, utilisation, and impact over time.

The ANOVA results support this hypothesis. The between-groups analysis shows a significant F-value (31.03044) with a p-value of 6.17E-06, indicating that there are significant differences among the years in terms of access, usage, quality, and F-Index values. Therefore, the data suggest variations in research accessibility, utilisation, and impact over time.

Hypothesis 3: The observed increase in the F-Index values is primarily driven by improvements in research access and usage, contributing to enhanced research impact and quality.

The data partially support this hypothesis. While there is evidence of improvements in research access and usage over time, the quality values show some variations. The quality rating slightly declined from 52.6% in March 2019 to 50.7% in March 2021. However, the overall increasing trend in the F-Index values suggests that improvements in access and usage have contributed to enhanced research impact. Further analysis is needed to understand the specific factors influencing quality ratings.

X. CONCLUSION

In conclusion, owing to government initiatives and technology improvements, India has made great progress towards financial inclusion. Millions of formerly unbanked people, particularly in rural regions, now have access to financial services because to expanding banking infrastructure, electronic payment methods, and novel financial products. However, it is imperative to solve the remaining issues, including as resolving the gender gap, enhancing financial literacy, and meeting the needs of marginalised populations, in order to achieve real and equitable financial inclusion. India can open the door for a future that is more inclusive and prosperous for all of its residents by giving these initiatives top priority.

XI. DECLARATIONS

Conflict of interest: There is no potential conflict of interest by the authors.



Decalarion	Suggestions
Funding/ Grants/ Financial Support	No, I did not receive.
Conflicts of Interest/ Competing Interests	No conflicts of interest to the best of our knowledge.
Ethical Approval and Consent to Participate	No, the article does not require ethical approval and consent to participate with evidence.
Availability of Data and Material/ Data Access Statement	Not relevant.
Anthors Contributions	Not applicable, I am only the sole author of the article.

XII. REFERENCES

- 1) AFI. (2022, 08 24). GLOBAL POLICY LEADERSHIP ALLIANCE. RETRIEVED FROM GLOBAL POLICY LEADERSHIP ALLIANCE:
<HTTPS://WWW.AFI-GLOBAL.ORG/ABOUT/>
- 2) Dhillon, L. (2019). A study on Role of Regulatory Bodies in Financial Inclusion and Identifying the Barriers in its Implementation. *Mewar university*.
- 3) GPFI. (2022, 08 22). *ABOUT GPFI*. Retrieved from GPFI: <https://www.gpfi.org/about-gpfi>
- 4) IMF. (2022, 08 20). *financial Access Survey*. Retrieved from International Monetary Fund:
<https://data.imf.org/?sk=E5DCAB7E-A5CA-4892-A6EA-598B5463A34C>
- 5) Jain, U. (2021). AN Analysis of Financial Inclusion in Slump Pockets - special refernce to Mumbai-. *Nehru institute of social sciences*.
- 6) JOSE, R. (2019). EFFECTIVENESS OF FINANCIAL INCLUSION POLICIES RESERVE BANK OF INDIA WITH SPECIAL REFERENCE TO KERALA. *MAHATMA GHANDHI UNIVERSITY*.
- 7) R.ANNU. (2013). AN EMPIRICAL ANALYSIS OF FINANCIAL INCLUSION IN INDIA - A CASE STUDY OF TAMILNADU-. *UNIVERSTY OF MADRAS*.

8) RBI. (2021, 09 16). *Financial Inclusion Index for India*.

Retrieved 08 30, 2022, from Reserve Bank of India:
https://rbi.org.in/scripts/BS_ViewBulletin.aspx?Id=20502

9) SARMA, M. (2008). INDEX OF FINANCIAL INCLUSION. *Indian coucilt for research on international economic reations*, 17.

10) Sharma, P. (2015). A Study of the Impact of Financial Inclusion in Rural Development. *Presteige institute of mangement and research*.

11) Tuesta, N. C. (2014). Measuring Financial Inclusion:A Multidimensional Index. *BBVA research*.

12) World-Bank. (2022, 08 22). *Watch with simultaneous interpretation*. Retrieved from The World Bank:
<https://www.worldbank.org/en/publication/globalfindex>

AUTHORS PROFILE

Ramzi Abdullah Ahmed Hassan



✉ Ph.D. Research Student,
Department of Economics,
Swami Ramanand Teerth

Marathwada University, Nanded City,
Maharashtra, INDIA